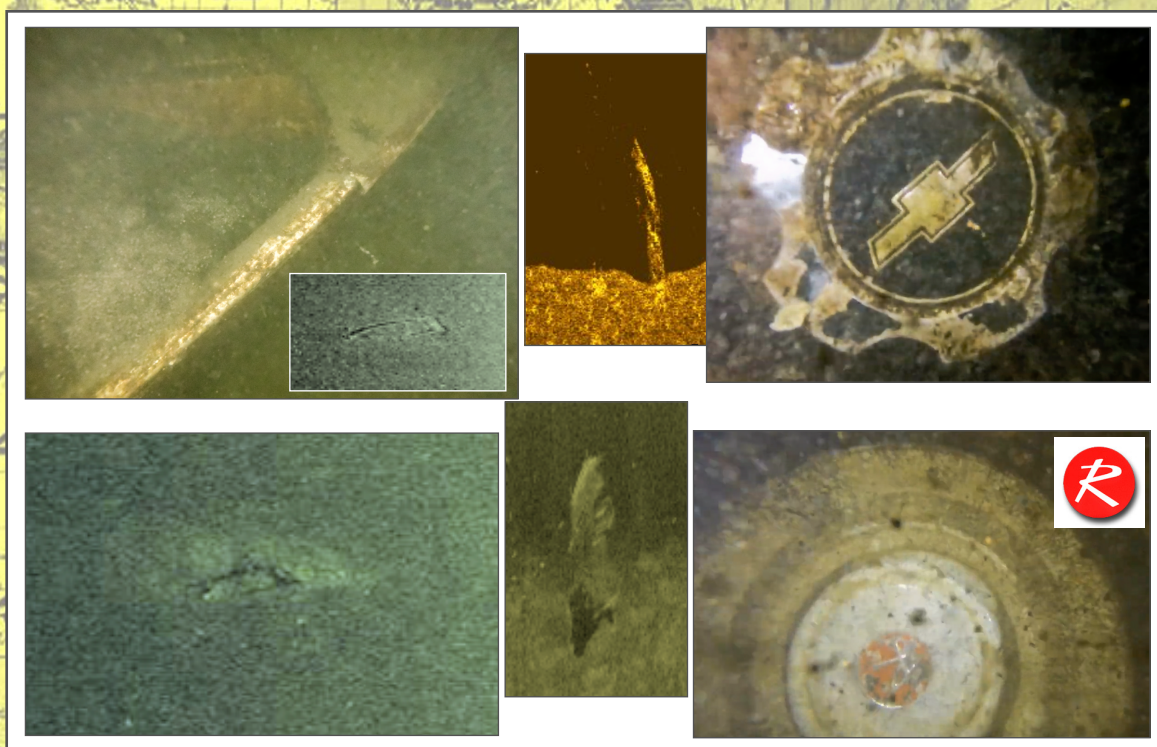


MARITIME HERITAGE MINNESOTA



Ann Merriman
Christopher Olson

Minnesota Suburban Lakes Nautical Archaeology 3 Project Report: Medicine Lake



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MHM IS A 501.(c).3 NON-PROFIT CORPORATION DEDICATED TO THE DOCUMENTATION, CONSERVATION, AND PRESERVATION OF MINNESOTA'S FINITE MARITIME CULTURAL RESOURCES

“ACHF grants have allowed a small St. Paul-based nonprofit, Maritime Heritage Minnesota (MHM), to re-establish the discipline of underwater archaeology in Minnesota. Without this support, MHM could not have conducted its groundbreaking nautical archeological and maritime historical research.”

~Steve Elliott, Former Minnesota Historical Society CEO and Director, January 2015

Introduction

Wrecks and the artifacts associated with them tell a story. Removing or otherwise disturbing artifacts, treating them as commodities that can be sold, obliterates that story. Nautical archaeological and maritime sites are finite, and are significant submerged cultural resources. Nautical, maritime, underwater, maritime terrestrial – Maritime Heritage Minnesota's (MHM) deals with all of these types of sites throughout the State of Minnesota. MHM's Mission is to document, conserve, preserve, and when necessary, excavate these finite cultural resources where the welfare of the artifact is paramount. MHM is concerned with protecting our underwater and maritime sites – our shared Maritime History – for their own benefit in order for all Minnesotans to gain the knowledge that can be obtained through their study. MHM's study of wrecks does not include the removal of artifacts or damaging the sites in any way. MHM does not raise wrecks or 'hunt' for 'treasure'. Submerged archaeological sites in Minnesota are subject to the same State statutes as terrestrial sites: the Minnesota Field Archaeology Act (1963), Minnesota Historic Sites Act (1965), the Minnesota Historic District Act (1971), and the Minnesota Private Cemeteries Act (1976) if human remains are associated with a submerged site. Further, the case of *State v. Bollenbach* (1954) and the Federal Abandoned Shipwrecks Act of 1987 provide additional jurisdictional considerations when determining State oversight and "ownership" of resources defined by law as archaeological sites (Marken, Ollendorf, Nunnally, and Anfinson 1997, 3-4). Therefore, just like terrestrial archaeologists working for the State or with contract firms, underwater archaeologists are required to have the necessary education, appropriate credentials, and hold valid licenses from the Office of the State Archaeologist (OSA).



**Respect the Diver Down Flag
By Law, Stay 150-Foot Away From
All Diver Down Flags Displayed**



Preface

In 2016, during the Minnesota Suburban Lakes Survey Project (MSLS), MHM surveyed Upper and Lower Prior Lake (1,238 acres, Scott County), Lake Pulaski (702 acres, Wright County), Medicine Lake (886 acres, Hennepin County), Lake Johanna (213 acres, Ramsey County), Lake Sylvia (1,524 acres, Wright County), and Lake Elmo (206 acres, Washington County). Other MHM sonar survey and underwater archaeology projects have taken place in Lake Minnetonka, White Bear Lake, Lake Waconia, the Headwaters Mississippi River, and the Minnesota River. In 2018, during the Minnesota Suburban Lakes Nautical Archaeology 2 Project (MSLNA-2), MHM identified the only 3 recognized wrecks on the bottom of Medicine Lake: the Steel Launch Wreck (21-HE-516), the Wooden Outboard Wreck (21-HE-517), and the Flat-Bottomed Motor Boat Wreck (21-HE-518). MHM's targeted re-scanning of Medicine Lake using improved down and side-imaging sonar produced significantly more detailed data. Within this data, MHM recognized 2 additional wrecks (Anomalies 18, 74), 2 large objects (Anomalies 46, 59), an unknown site type (Anomaly 73.1-2), and 9 other possible sites or objects (Anomalies 10, 67, 68, 69, 70, 71, 72, 75).

Results of the Minnesota Suburban Lakes Nautical Archaeology 3 Project

Research Design

The purposes of the MSLNA-3 Project was to conduct a targeted remote sensing sonar survey and use underwater archaeological reconnaissance to answer questions about and determine the nature of specific anomalies. The lakes focused on during the project were Prior Lake, Medicine Lake, and Lake Johanna.

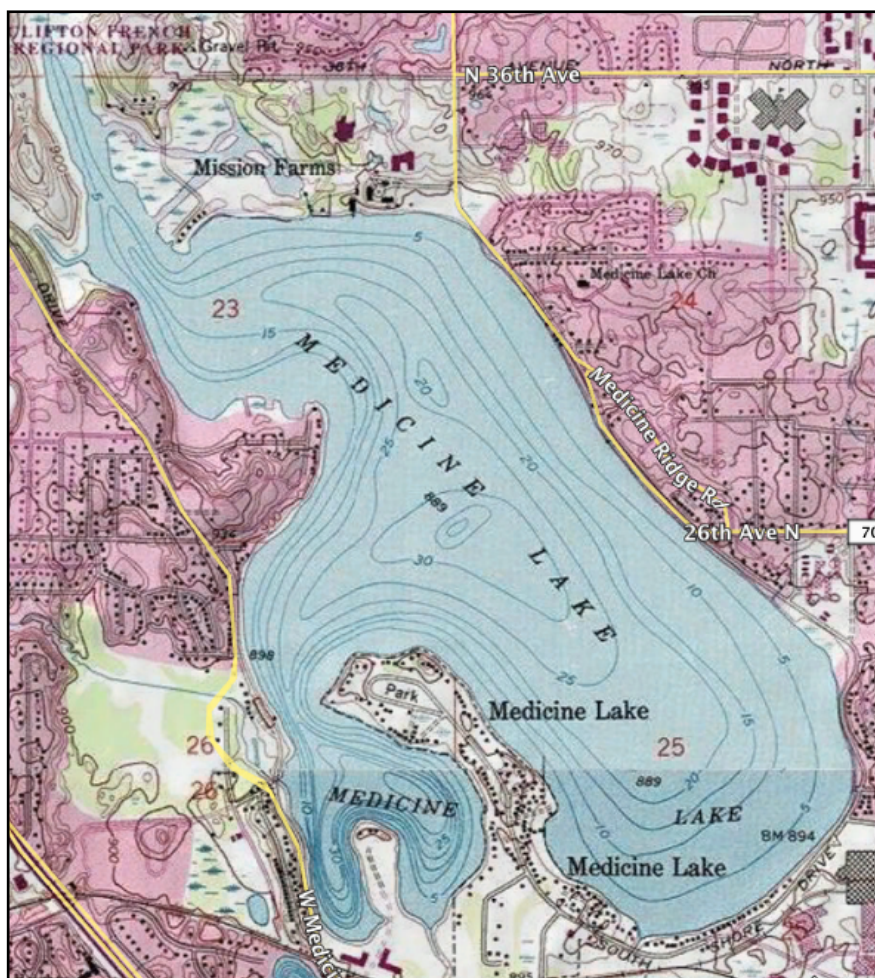
Methodology

The use of improved sonar equipment to record images with increased detail and clarity directly affects underwater archaeological reconnaissance by facilitating efficient dive planning. Specifically, it eliminates the need to dive on dozens of false targets - unusual bottom contours, rocks, and trees - that often appear to be wrecks and other objects. Further, MHM can identify maritime sites such as docks, boat lifts, dock canopies, and steam boilers to determine if dive reconnaissance on those objects is necessary, depending on their location and other factors. For the MSLNA-3 Project, specific anomalies that were probable wrecks and other submerged cultural resources were chosen for investigation using SCUBA. Also, using data accumulated from the fieldwork as a starting point, MHM conducted research to place newly recognized nautical archaeological sites and anomalies into their historical contexts. Minnesota Archaeological Site Forms were filed with the OSA when appropriate.

Results: Medicine Lake

After the completion of the MSLNA-3 Project fieldwork in Medicine Lake October 2019, there are now 5 identified wrecks, 2 vehicles, and a series of barrels and poles on the bottom of Medicine Lake. Some other anomalies may have not been dove upon yet, but their sonar signatures are detailed enough to allow for their identification; they may be

investigated using SCUBA in the future. The anomalies were identified through underwater archaeological reconnaissance fieldwork using SCUBA, digital video, measured drawings, improved side and down-imaging sonar, and maritime historical research. Of the 5 identified wrecks in Medicine Lake, 3 of them now have Minnesota archaeological site numbers. During the MSLNA-3 Project specifically – MHM and a volunteer identified 2 new wrecks (A18, A74), 2 vehicles, (A46, A59), a small cluster of barrels (A73.1-A73.2), and a canoe-shaped weed cluster (A75). Also during the MSLNA-3 Project, MHM's targeted side and down imaging sonar re-scanning of Medicine Lake using updated sonar equipment allowed for the identification of 2 anomalies as false targets comprised of bottom contours (A70, A72) - without dive reconnaissance.

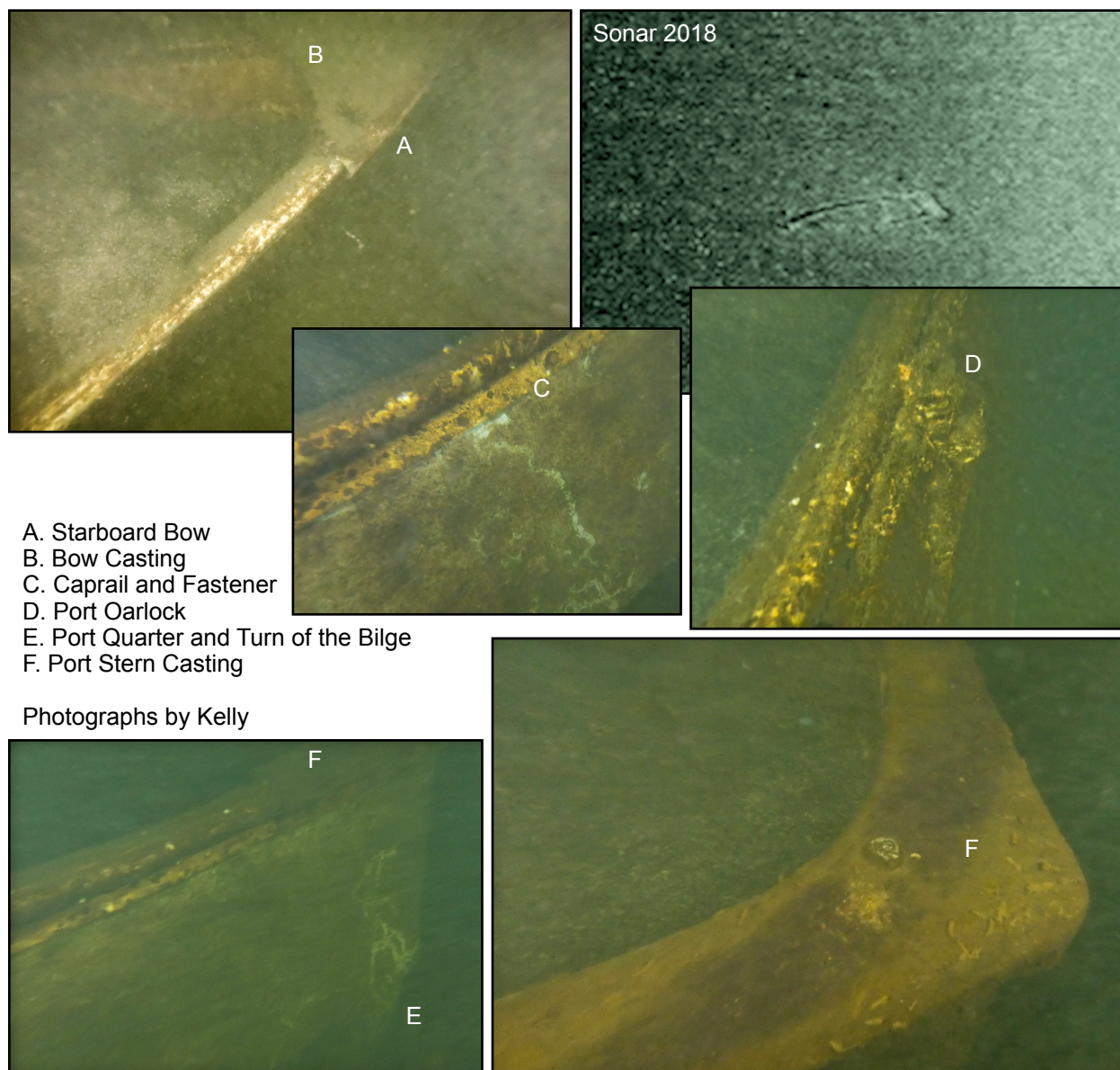


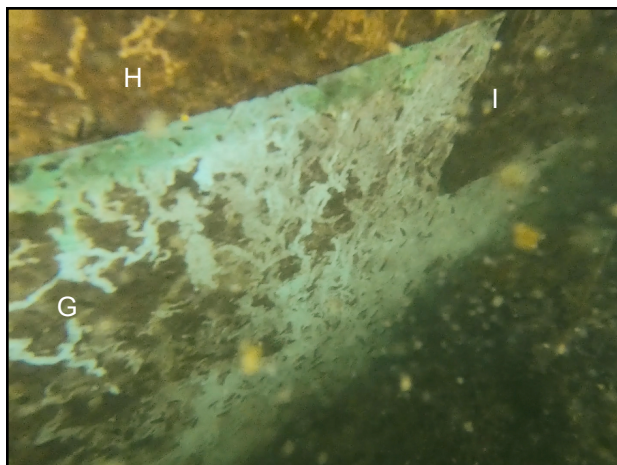
Medicine Lake (USGS).

Fiberglass Outboard Motor Boat Wreck (Anomaly 18)

MHM's 2016 sonar image of Anomaly 18 did not have enough definition to label it a wreck with complete confidence. The 2018 sonar signature of the anomaly, however, confirmed the identify of the object as a wreck. Dive reconnaissance during the MSLNA-3 Project proved the wreck is a fiberglass open fishing boat that once carried on outboard motor. Anomaly 18 is 15.00 long with a 4.10 foot beam, her sides are

painted blue and her bottom is white. An aluminum bow casting survives at the stem and the wreck has an extruded aluminum caprail attached to the gunwale with bolts or screws. Her square transom is gently rounded at the turn of the bilge and her sides stand nearly vertical. She has an external motor board attached to the stern where the gunwale dips for the missing outboard motor. Her port quarter is exposed and she appears to be flat-bottomed, and the port stern has a casting attached with Philips head screws. A port side oarlock is attached to the amidships outer hull by a metal plate. Due to poor visibility, the starboard side of the wreck was not visible except some of the bow; at that point, her registration number survives - MN 7894 ED - and her validation sticker expired in December 1987. However, information received from the DNR contradicts the archaeological evidence; the official record connects this registration number with a 12-foot long fiberglass homemade boat whose validation sticker expired in December 1985. While Anomaly 18 may be a home-build, the size and validation sticker differences are discrepancies that might be reconciled with additional fieldwork in improved conditions. The Fiberglass Outboard Motor Boat Wreck is a protected submerged cultural resource.\





G. Transom
H. Stern Caprail
I. Wooden Motor Board
J. Dipping Gunwale Motor Attachment


Photographs by Kelly Nehowig

Small Fiberglass Faux Lapstrake Wreck (Anomaly 74)

Anomaly 74 is partially buried and was investigated in near-zero visibility. The Small Fiberglass Faux Lapstrake Wreck is approximately 6.00 feet long and has a white moulded faux lapstrake - otherwise known as clinker-hull. MHM must return to this wreck to determine the additional attributes she has. The Small Fiberglass Faux Lapstrake Wreck is a protected submerged cultural resource.



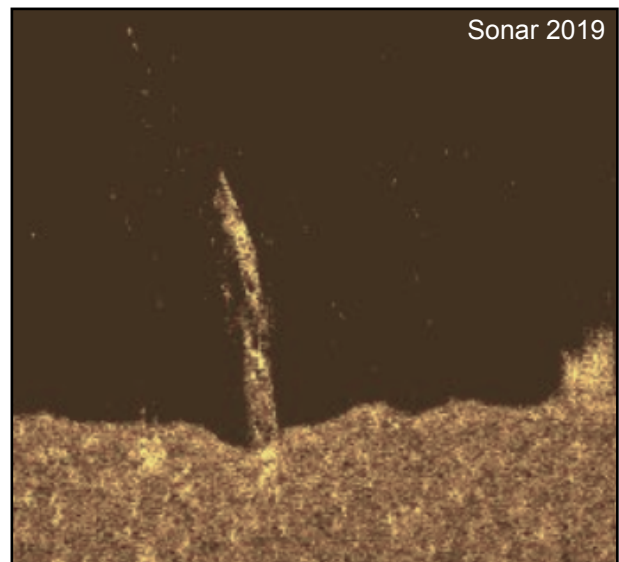
1963 AMC Rambler (Anomaly 59)

Initial sonar images indicated that Anomaly 59 is a rectangular object, and MHM initially surmised that it is a fish house. SCUBA reconnaissance during the MSLNA-3 Project allowed MHM to identify Anomaly 59 as a 4-door 1963 AMC Rambler standing at a 90° angle imbedded in the lake bottom. When the vehicle went through the ice, the heavy front end headed to the bottom first and the car's inertia drove it into the lake bottom silt. Anomaly 59's front doors are nearly covered in silt, so its windshield and hood are completely buried. The car has extensive surface rust so its color cannot be ascertained, although a hint of red is evident on the trunk. Anomaly 59 has hubcaps with a distinctive  logo and a 1974 Minnesota license plate with the number BL 8922. The 1963 AMC Rambler is a protected submerged cultural resource



Chevy (Anomaly 46)

MHM's 2018 sonar recording of Anomaly 46 showed detail, but not sufficient clarity to identify it beyond the fact that it is large. During the MSLNA-3 Project, MHM re-scanned the object and determined that like Anomaly 59, it is standing at a 90° angle imbedded in the lake bottom. Again, like the AMC Rambler, this anomaly is a car - a late 1960s-early 1970s 2-door Chevy coupe. When the vehicle went through the ice, the heavy front end headed to the bottom first and the car's inertia drove it into the lake bottom silt. The



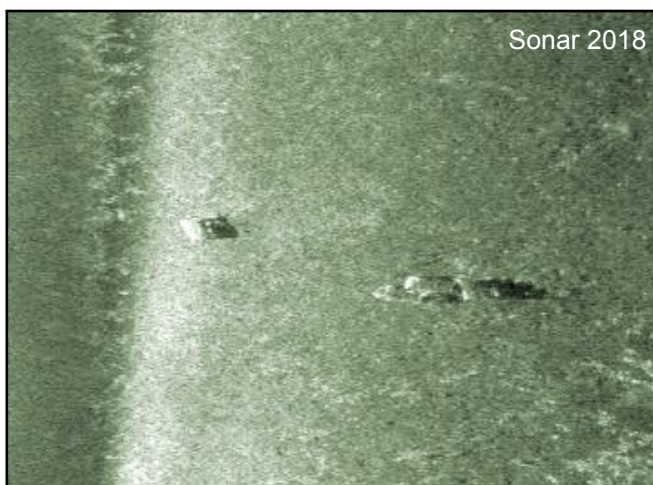
Chevy's doors are nearly covered in silt; the windshield and hood are completely buried and the rear window is missing. The left rear fender area is nearly rusted away, including the tail light. The rectangular right side tail light survives, but corrosion prevents the identification of specific details. The car is blue, has hubcaps with a Chevrolet bowtie logo, and an unreadable corroded license plate. The body style suggests Anomaly 46 is a Nova or Vega. The Chevy is a protected submerged cultural resource.



Photograph by
Kelly Nehowig

Barrels (Anomalies 73.1, 73.2)

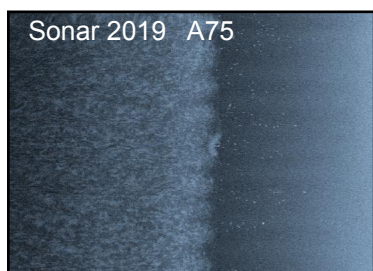
MHM's 2018 sonar image of Anomalies 73.1 and 73.2 had increased clarity and detail, and it was surmised that they were the body of a car and its engine lying several feet away. After SCUBA reconnaissance during the MSLNA-3 Project, MHM has identified Anomalies 73.1 and 73.2 as 3 barrels; 2 are located at the coordinates of A73.1. The Barrels are protected cultural resources.



Sonar 2018

False Targets (Anomalies 75, 70, 72)

A sonar image recorded by MHM in of Anomaly 75 in 2019 suggested it was a small watercraft such as a canoe; it is a clump of canoe-shaped weeds, determined by SCUBA reconnaissance. Anomalies 70 and 72 are false targets, determined by additional sonar survey and review.



Sonar 2019 A75



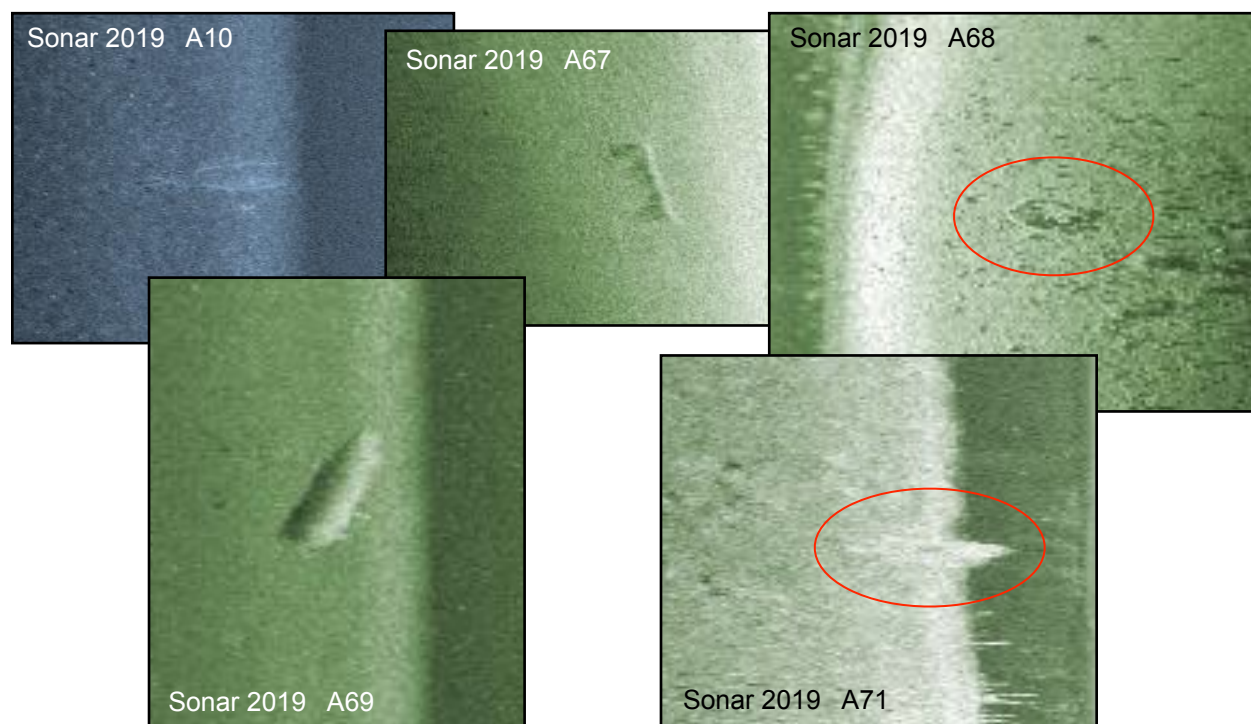
Sonar 2019 A70



Sonar 2019 A72

Possible Wrecks or Sites (Anomaly 10, 67, 68, 69, 71)

During the MSLNA-3 Project, MHM conducted targeted sonar survey in order to record images of certain anomalies with increased clarity. This data includes 5 possibly human-made anomalies that require SCUBA reconnaissance to determine their nature.



Conclusion

MHM identified the first 3 recognized wrecks on the bottom of Medicine Lake during the MSLNA-2 Project - the Metal Launch Wreck (21-HE-516), Wooden Outboard Wreck (21-HE-517), and the Flat-Bottomed Motor Boat Wreck (21-HE-518). MHM's targeted re-scanning of Medicine Lake using improved down and side-imaging sonar during the MSLNA-2 Project produced significantly more detailed data. Within this data, MHM confirmed a 4th wreck (Anomaly 18), 3 possible wrecks (Anomalies 10, 36, 70), and a large object with an interesting acoustical signature that may be a wreck, vehicle, or another type of site (Anomaly 46). Other unknown anomalies will require additional sonar survey to produce additional detailed images or SCUBA reconnaissance to confirm their nature (Anomalies 59, 67, 68, 69, 71, 72, 73.1-73.2). During the MSLNA-3 Project in Medicine Lake, MHM and a volunteer identified 2 new wrecks, 2 vehicles, a series of barrels, and 1 false target. Also during this project, MHM's targeted side and down imaging sonar re-scanning of Medicine Lake allowed for the identification of 2 anomalies as false targets comprised of vegetation.

Specifically, the 2 newly recognized wrecks represent the more recent maritime history of the Medicine Lake area, although little archaeological or historical evidence has been gathered about their natures. The Fiberglass Outboard Motor Boat Wreck is similar to

the Shell Lake Portager Wreck (21-HE-508) in Lake Minnetonka; MHM determined this wreck is an early 1950s fiberglass prototype Portager model constructed in Shell Lake WI. Anomaly 18 in Medicine lake, like the Portager Wreck, has upright sides and a flat tub-like bottom.¹ As mentioned above, Anomaly 18's registration information does not coincide with the archaeological data recorded by MHM. Further, many archaeological questions persist about Anomaly 74, the Small Fiberglass Faux Lapstrake Wreck, due to her buried nature and low visibility during the MSLNA-3 Project. MHM's interpretation and analysis of both of these wrecks would benefit from additional fieldwork in the future.

Anomaly 59 - a 1963 AMC Rambler - and Anomaly 46 - a Chevy - are interesting sites particularly because they are upright in the water column. These anomalies join the 8 cars, 1 truck, 4 snowmobiles, and 1 doodlebug MHM has identified on the bottom of Lake Minnetonka.² Additionally, the Rambler and Chevy join several wrecks MHM has identified that are standing upwards in the water column in Lake Minnetonka and Prior Lake.³ As a whole, the MSLNA-3 Project produced interesting and significant results investigating 21 anomalies in 3 lakes in 3 counties using SCUBA. MHM dove upon and identified 8 wrecks, 4 maritime sites or objects, 2 cars, and 3 'other' objects in Prior Lake, Medicine Lake, and Lake Johanna. Of the 8 wrecks, MHM acquired Minnesota Archaeological Site Numbers for 6 of them: 5 in Prior Lake and 1 in Lake Johanna.

The wrecking processes responsible for the creation of Minnesota's submerged cultural resources have produced a variety of underwater sites. Identifying, comparing, and associating these new sites in Prior Lake, Lake Johanna, and Medicine Lake, along with known sites increases our understanding of the historical context within which these cultural resources operated or were exploited by Minnesotans. Future studies will greatly enhance our shared maritime history through the recognition of submerged cultural resources and the stories behind their construction and disposition. The diversity of nautical, maritime, and underwater sites so far identified by MHM in Minnesota's lakes are tangible examples of the rich maritime history of the area. Through research, diving on wrecks and anomalies to collect pertinent data, and ensuring that the collected information is accessible by the public, MHM will continue to investigate Minnesota's submerged cultural resources into the future. MHM continues to re-examine recorded sonar footage from completed remote sensing surveys. Targeted re-scanning has occurred in several lakes using knowledge gained from the comparison of anomalies that have proven to be wrecks or other submerged cultural resources in past projects. With improved technology, future scanning projects will produce clearer data. The results of the MSLNA-3 Project summarized above is connected to all the work that came before and will come after its completion. At this point, watercraft

¹See MHM's *Lake Minnetonka Nautical Archaeology 8 Project Report* for more information on the Shell Lake Portager Wreck (21-HE-508).

²The identified vehicles on the bottom of Lake Minnetonka include 8 cars (1955 Mercury Monterey 4 Door Sedan [A21], 1974 Caprice Classic Coupe [A57, in the water column], Model A Coupe Frame [A78], 1939 Ford Roadster [A209], 1936 Plymouth Sedan [460], Buried Car on Its Side [599], Model T Ford Body [A642], and the ~1940 Chevrolet Sedan [A778]); 1 truck (Red Dodge Ram Laramie SLT [A27]); 4 snowmobiles (Polaris [A289, A660], Rupp [A723], Unknown Brand [A738]), and a Doodlebug (21-HE-bm). See MHM's *Lake Minnetonka Nautical Archaeology 1-9 Project Reports*.

³The wrecks MHM has identified as standing in the water column to date: Lake Minnetonka (A23, A32, A462, A749) and Prior Lake (21-SC-109, A18). See MHM's *Lake Minnetonka Nautical Archaeology 2, 3, 7, and 9 Project Reports* and the *Minnesota Suburban Lakes Nautical Archaeology 1 Project Report*.

located Minnesota's suburban lakes represent approximately 1,000 years of Minnesota's maritime history and nautical archaeology. In the historic period, the known wrecks represented in these lakes span around 140 years of local maritime culture. It is clear – even through this Phase 1 pre-disturbance nautical archaeological investigation – that the types of sites that exist in Minnesota's suburban lakes documented to date are diverse, archaeologically and historically significant, and worthy of great attention.

References

- Marken, M.W., A. Ollendorf, P. Nunnally, and S. Anfinson. 1997. *Beneath Minnesota Waters: Minnesota's Submerged Cultural Resources Preservation Plan*. Summit Envirosolutions, Inc. and Braun Intertec, St. Paul. Report prepared for the State Historic Preservation Office, Minnesota Historical Society: St. Paul, MN.
- Merriman, Ann, and Christopher Olson. 2019-2013. *Lake Minnetonka Nautical Archaeology 1-9 Project Reports*. Maritime Heritage Minnesota: St. Paul, MN.
- _____. 2017. *Minnesota Suburban Lakes Nautical Archaeology 1 Project Report: Prior Lake*. Maritime Heritage Minnesota: St. Paul, MN.

